

MANAGEMENT OF DEWATERING AREAS FOR WATERFOWL
A Situation Assessment and Long-Range Plan

EXECUTIVE SUMMARY

by

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Over one million recreation visits, valued at \$45 million,¹ are supported by the 175,000 acres of TVA lands and waters being developed for waterfowl on our reservoir system by state wildlife agencies; U. S. Fish and Wildlife Service; and Forestry, Fisheries, and Wildlife Development. The key units responsible for these recreation values are the dewatering areas on Wheeler and Kentucky Lakes.

Strategic Actions Required

In order to retain current--and secure increased--wildlife benefits from these dewatering areas the following strategy is proposed:

1. Continue adequate funding for Wheeler Reservoir units.
2. Initiate emergency repairs at West Sandy immediately. (Work orders have been issued to P&SVS to replace two of the four pumps there in FY 1977.)
3. Transfer Kentucky Lake O&M funds from ENV PL to FF&WD for West Sandy beginning in FY 1978 (via memo T. H. Ripley to P. A. Krenkel, April 22, 1977).
4. Add \$19,500 to FY 1977 dewatering budget of FF&WD for habitat development experimentation at West Sandy (immediate action needed here).
5. Refurbish pumps and levees and begin pumping at Hustburg unit (Tennessee National Wildlife Refuge) by FY 1980.
6. Acquire all budgeting and TVA land management responsibilities for Kentucky Lake dewatering areas by FY 1980.
7. Secure cost-sharing agreements among U. S. Fish and Wildlife Service (USFWS), state wildlife agencies, and TVA on all dewatering areas by FY 1981.

1. J. C. Horvath, 1974. Economic survey of Tennessee Valley wildlife and wildlife-oriented recreation. Georgia State University, Atlanta, Georgia.

8. Operate all pumping stations by FY 1983.
9. Have all pumps replaced with new units by FY 1985, or earlier if funds permit.

Organization

Costs for operating and maintaining these units have been considered a part of MRO, budgeted by ENV PL. Work orders are issued to P&SVS for conduct of pumping and internal drainage actions. Major repairs to dikes and gatehouses are funded by EN DES. Inspection of such gates is done by W MGT. Table 1 presents past, current, and projected future budgets for dewatering areas.

In 1975 the responsibility for continued pumping operations on Wheeler Reservoir dewatering units was transferred to FF&WD along with the O&M funds held by ENV PL. This reflects TVA's awareness of the new dimension of benefits now ascribed to dewatering area management.

FF&WD plans eventually to be responsible for securing O&M funds required for pumping at all dewatering units, expanding in FY 1978 to include West Sandy unit on Kentucky Lake. ENV PL has agreed informally to transfer its West Sandy operating funds beginning in FY 1978 to partially cover FF&WD's moist-site waterfowl habitat development demonstration in cooperation with Tennessee Wildlife Resources Agency (TWRA). And, ENV PL has agreed to transfer the savings in larvacide application costs to FF&WD as long as pumping schedules meet their program needs. P&SVS shall continue to perform the on-the-ground work required to meet wildlife habitat development objectives via work orders issued by FF&WD.

Economic Considerations

That wildlife have benefited from the existence and operation of dewatering units is well-known. Economic documentation, however, has only recently been achieved. In comparing FY 1976 TVA-budgeted dewatering operations and maintenance costs (\$154,000) with benefits at Wheeler and Kentucky Reservoirs, the benefit-to-cost ratio for wildlife, agricultural, and vector control alone ranges from 7.2:1 (Water Resources Council values) to an astounding 67.5:1 using Horvath's 1974 economic survey results! Even by the addition of state wildlife agency and Fish and Wildlife Service operating budgets for FY 1976 (estimated to be \$600,000), the ratio of these benefits to costs is admirable: 1.5:1 (Water Resources Council) to 13.8:1 (Horvath).

A significant problem exists, however, to varying degrees at all dewatering units from extreme emergency to nonemergency. Pumps are antiquated (25 years old or more), and particularly at West Sandy, some are inoperable. Main dikes are in generally good shape, but lateral levees (Hustburg Unit especially) are in disrepair. Internal drainage ditches and canals range from free-flowing to plugged. In summary, there is a great need for capital improvement funds to replace worn-out pumps, refurbish some levees, and improve internal drainage throughout the dewatering system.

TABLE 1. Past, Current, and Proposed Budgets for Dewatering Areas (1976 dollars, except for prior years) Kentucky and Wheeler Reservoirs.

Organization	-----DOLLARS expressed in THOUSANDS (\$000's)-----											
	F.Y. '72	F.Y. '73	F.Y. '74	F.Y. '75	F.Y. '76	F.Y. '77	F.Y. '78	F.Y. '79	F.Y. '80	F.Y. '81	F.Y. '82	F.Y. '83+
TVA-Capital ¹												
Kentucky (FF&WD)	-	-	-	-	-	60	50	60	60	60	30	280
Wheeler (FF&WD)	-	-	-	-	-	-	-	60	30	30	-	20 ²
Subtotal capital	-	-	-	-	-	60	50	120	90	90	30	300 ²
TVA-O&M ³												
Kentucky	58.1	39.0	64.6	66.7	138.1	126.2	196	117	184	205	205	225/yr.
P&SVS (ENV PL)	57.1	38.0	63.6	65.7	135.4	105.7	95	15	-	-	-	-
W MGT	1.0	1.0	1.0	1.0	1.0	1.0	1 ⁴	2	4	5	5	5
FF&WD	-	-	-	-	1.7	19.5	100	100	180	200	200	220
Wheeler	17.0	23.4	29.8	20.3	15.9	33.7	50.5	51	51	51	51	51/yr.
P&SVS (ENV PL)	16.5	22.9	29.3	18.0	-	-	-	-	-	-	-	-
W MGT	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	1
FF&WD	-	-	-	1.8	15.4	33.2	42.0	50	50	50	50	50
Subtotal O&M	75.0	62.4	94.4	87.0	154.0	159.9	238.5	168	235	256	256	276/yr.
GROSS TOTAL	<u>75.0</u>	<u>62.4</u>	<u>94.4</u>	<u>87.0</u>	<u>154.0</u>	<u>219.9</u>	<u>288.5</u>	<u>288</u>	<u>325</u>	<u>346</u>	<u>286</u>	<u>N.A.</u>
INCOME	<u>3.1</u>	<u>2.8</u>	<u>3.4</u>	<u>3.0</u>	<u>3.1</u>	<u>5.1</u>	<u>7.0</u>	<u>37</u>	<u>85</u>	<u>140</u>	<u>110</u>	<u>105 O&M/yr. plus</u> <u>150 total cap.</u>
TVA NET	<u>71.9</u>	<u>59.6</u>	<u>91.0</u>	<u>84.0</u>	<u>150.9</u>	<u>214.8</u>	<u>281.0</u>	<u>251</u>	<u>240</u>	<u>206</u>	<u>176</u>	<u>171 O&M/yr. plus</u> <u>150 total cap.</u>
OTHER AGENCIES	500	510	520	530	600	650	690	700	720	750	750	750-1,000/yr.

1. One-half Wheeler capital funds paid by FWS and Alabama Department of Conservation; one-half Kentucky Lake capital funds paid by USFWS & TWRA by 1981.
2. No additional capital funds required for about 25 years upon completion of these expenditures.
3. One-half Wheeler O&M funds paid by FWS & Alabama Department of Conservation starting F.Y. 1977; on Kentucky, one-half FWS area & one-third TWRA area O&M paid by these agencies by 1981; TVA would receive some income by 1979.
4. ENV PL transfer for West Sandy plus Division's dewatering accounts.